ABSTRACT

A data storage system including a primary data storage device and a backup data storage device stores data with enhanced performance. The primary data storage device has a primary data storage device memory for holding data, and the backup data storage device has a backup volatile memory, a backup non-volatile memory, and a processor. The backup storage device processor causes a copy of data provided to the primary data storage device to be provided to the backup data storage device volatile memory, and in the event of a power interruption moves the data from the backup volatile memory to the backup non-volatile memory. In such a manner, data stored at the backup data storage device is not lost in the event of a power interruption. The backup data storage device further includes a backup power source such as a capacitor, a battery, or any other suitable power source, and upon detection of a power interruption, switches to the backup power source and receives power from the backup power source while moving the data from the backup volatile memory to the backup non-volatile memory.